

### Abstract

[065] An optical fiber communication system is described that includes a data source that generates electrical data. A transmission filter filters the electrical data generated by the data source and passes a transmission spectrum. The transmitter filter has a transfer function that reduces adjacent symbol interference in a transmission spectrum. The bandwidth of the transmitter filter may be substantially optimized bandwidth. A modulator modulates the transmission spectrum on an optical signal. The modulator may be a substantially chirp-free modulator. A detector detects the modulated optical signal transmitted across an optical channel and converts the detected modulated optical signal to a received electrical data signal. A receiver filter filters the received electrical data signal. The receiver filter has a transfer function that reduces adjacent symbol interference in the received electrical data signal.

JDSU-009vfinal